AR19

Annual Report 1970

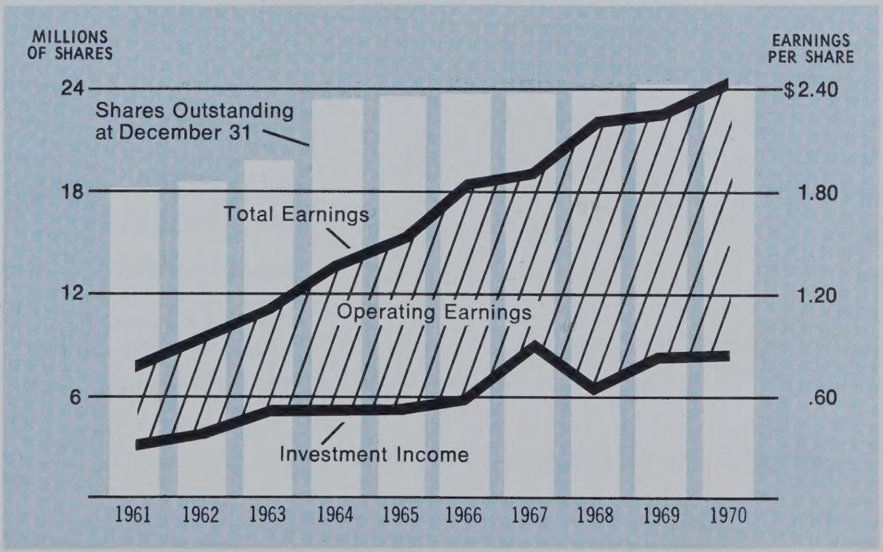
noranda

An $870 Million Corporation □ 90% owned by 32,000 Canadians

FINANCIAL SUMMARY

	1970	1969	1968	1967	1966
			(in millions)		
Operating revenue	**$456.9**	$428.5	$426.3	$372.7	$287.6
Dividends and interest earned	**24.3**	20.2	17.2	14.4	10.4
Depreciation and preproduction expenses	**20.6**	17.2	15.5	13.1	13.9
Taxes	**37.2**	36.9	34.0	34.6	30.3
Earnings	**59.5**	54.3	52.5	49.5	47.8
Working capital	**131.9**	76.0	133.6	107.9	98.0
Capital expenditures	**94.9**	69.8	57.7	46.9	40.9
Investments and advances	**222.1**	204.6	170.4	147.7	87.8
Long-term debt	**224.1**	177.6	223.7	85.0	9.4

EARNINGS PER SHARE



DIRECTORS

John R. Bradfield*,
Chairman, Noranda Mines, Toronto—Elected 1950

James C. Dudley,
Independent Financial Consultant, New York—Elected 1970

Hon. George B. Foster*,
Senior Partner—Foster, Leggat, Colby & Rioux, Montreal—Elected 1954

Louis Hébert,
President, Banque Canadienne Nationale, Montreal—Elected 1968

William James,
Partner—James, Buffam & Cooper, Toronto—Elected 1968

L. G. Lumbers*,
Chairman, Noranda Manufacturing Ltd., Toronto—Elected 1962

André Monast,
Partner—St. Laurent, Monast, Desmeules & Walters, Quebec—Elected 1966

R. V. Porritt*,
Vice-Chairman, Noranda Mines, Toronto—Elected 1958

Alfred Powis*,
President and Chief Executive Officer, Noranda Mines, Toronto—Elected 1964

W. S. Row*,
Executive Vice-President, Noranda Mines, Toronto—Elected 1960

J. D. Simpson,
Chairman, Placer Development Ltd., Vancouver—Elected 1962

W. P. Wilder*,
President, Wood Gundy Securities Ltd., Toronto—Elected 1966

* Member of the Executive Committee

OFFICERS

John R. Bradfield,
Chairman of the Board

R. V. Porritt,
Vice-Chairman of the Board

Alfred Powis,
President and Chief Executive Officer

W. S. Row,
Executive Vice-President

Hon. George B. Foster,
Senior Vice-President

L. G. Lumbers,
Vice-President

W. G. Brissenden,
Vice-President—Mines

E. K. Cork,
Vice-President—Treasurer

R. G. Driver,
Vice-President—Sales

Edward Futterer,
Vice-President—Exploration

J. A. Hall,
Vice-President—Mine Projects

R. P. Riggin,
Vice-President—Corporate Relations

D. E. G. Schmitt,
Vice-President—Mines

A. H. Zimmerman,
Vice-President—Comptroller

R. L. Pepall,
General Counsel

J. O. Hinds,
Executive Assistant to the President

R. C. Ashenhurst,
Secretary

HONORARY DIRECTORS

F. M. Connell

A. O. Dufresne

Jules R. Timmins

Leo H. Timmins

TRANSFER AGENT AND REGISTRAR

Canada Permanent Trust Company,
Toronto, Vancouver, Calgary, Saskatoon, Winnipeg, Montreal, Saint John, N.B., Halifax, Charlottetown and St. John's, Nfld.

The Chase Manhattan Bank, New York, N.Y.

Contents

INDEX

ANNUAL MEETING April 23rd, 1971, 2:30 p.m., Royal York Hotel, Toronto.

An English or French edition of this Report may be obtained from the head office of the Company at 44 King Street West, Toronto, Ontario.

On peut se procurer la version française ou anglaise de ce rapport en en faisant la demande au siege social de la compagnie, au 44 ouest, rue King, Toronto, Ontario.

DIRECTORS' REPORT

Earnings and Dividends

Earnings of $59.5 million, equal to $2.46 per share, increased more than 9% over 1969 to a new record level.

Earnings Per Share	1970	1969
From operations	$ 1.58	$ 1.36
From investments	$ .88	$ .88
Total	$ 2.46	$ 2.24

The 1970 figure above excludes extraordinary charges of 5¢ per share covering a further loss on closure of a manufacturing operation and the decline in the value of net current assets (largely in the U.S.) resulting from the floating of the Canadian dollar.

In spite of the new record, earnings were disappointing in comparison with what they might have been. Results of British Columbia Forest Products and the Geco mine were adversely affected by strikes. The arbitrary action of the federal government in forcing producers to maintain an artificially low price for copper sold in Canada during the first eight months of the year was extremely expensive. At the same time, the increase in the value of the Canadian dollar reduced revenues further, as each 1% rise costs Noranda about $1 million after taxes on an annual basis. The impact of these three factors on potential 1970 earnings was as follows:

	Millions	Per Share
Strikes	$ 7.0	$ .29
Government price control	$ 4.4	.18
Change in exchange rate	$ 3.0	.13
Total Cost	$14.4	$ .60

Despite weakness in metal prices in the last quarter, the higher value of the Canadian dollar and the Geco strike, earnings from mining and metallurgical operations increased slightly. This was due to strong prices during most of the year and to new contributions from Brenda Mines and Central Canada Potash, which were officially opened in June. Although affected by soft economic conditions during the second half, overall manufacturing operations doubled their contribution to earnings. Operations at the Northwood Pulp mill were satisfactory, but the contribution of forest products operations was reduced due to labour problems, severely depressed lumber prices and the higher value of the Canadian dollar. As shown on page 27, mining and metallurgical operations contributed 87% to Noranda's 1970 earnings, with manufacturing and forest products contributing 10% and 3% respectively.

Dividends of 27½¢ per share were paid in each of the first three quarters, and the rate was increased to 30¢ in the fourth quarter.

Major Developments

The largest capital expenditure during the year was for the aluminum reduction plant at New Madrid, Missouri. Due to very poor productivity of construction labour and lost time due to jurisdictional disputes between construction trades, first production will be delayed until March, 1971. As a result, the cost will be some 20% higher than the original budget of $85 million.

Gaspé Copper's ore reserves have been very substantially increased by widening the limits of the Copper Mountain open pit area to include a surrounding zone of lower grade ore. Consideration is being given to tripling the milling capacity for sulphide ore to 34,000 tons per day and construction of a leaching plant to treat 5,000 tons per day of low grade oxide ore. Production of copper would be more than doubled to over 70,000 tons per year. Gaspé Copper would also increase its smelter capacity by 27,000 tons of copper per year,

and would construct a sulphuric acid plant to supply acid for the leaching operation. The entire project would cost about $98 million including interest during construction and working capital. A decision regarding this possible expansion will be made in the near future.

At the Horne Mine, construction of a commercial sized prototype of the new Noranda Continuous Smelting Process reactor is under study, which would increase the annual output of copper by 55,000 tons. Also under study is a corresponding increase in the capacity of the Canadian Copper Refiners plant at Montreal East. Total of these projects, if proceeded with, would be about $25 million.

Construction has started at the Bell Copper Division in central British Columbia, leading toward the treatment of 10,000 tons of 0.5% copper ore per day by mid-1972 at an estimated capital cost of $40.5 million. Noranda has a 51% interest in a joint venture which is developing a small copper-nickel orebody near Timmins, Ontario. Production will begin in 1972 at the rate of 700 tons of ore per day, and Noranda will contribute $5.5 million to the capital cost. Development of the northwestern Ontario orebody of Mattabi Mines (60% owned by Mattagami Lake Mines) is proceeding, and in British Columbia, Placer Development will bring in a 30,000 tons per day operation on the Gibraltar Mines orebody in 1972.

Northwood Mills began construction of two new sawmills in southern British Columbia at a total cost of $11 million and Northwood Pulp is building a new sawmill near Prince George at a cost of $7 million. These new mills will begin production in 1971. British Columbia Forest Products arranged financing and started construction of its $95 million forest products complex at Mackenzie, British Columbia, which is scheduled for completion in August, 1972.

Financial

Capital expenditures and major investments during 1970 totalled $112 million. In addition, $13 million of long term debt was retired and current debt reduced by $41 million.

Retained cash flow from operations was $52 million, in addition to which some $40 million was provided through issue of debentures, $20 million through sale of term notes and $12 million from sale of 49% interest in Central Canada Potash. As a result, working capital increased by $56 million to $132 million.

Over the past six years, Noranda's direct and indirect share of capital expenditures and investments in connection with major new projects, acquisitions or expansions has totalled more than $400 million. To date, the effect of these expenditures on earnings is relatively small since some of the projects involved are not completed, others only recently started production, and some are involved in temporarily depressed markets. However, these investments are considered to be sound and will contribute significantly to Noranda's earnings in the years ahead.

Outlook

The Canadian mining industry is still faced with uncertainties with respect to the changes forthcoming in the taxation system. The revisions to the original proposals announced to date are an improvement, but unless further significant changes are made the level of taxation borne by the Canadian mining industry will be considerably higher than in other important mining countries. The effect on exploration in Canada would be serious.

Throughout 1970, Noranda continued to strengthen its exploration and manufacturing activities in foreign countries. Exploration will be conducted in 12 other countries during 1971 and Noranda now has interests in mining and manufacturing operations in 11 countries other than Canada.

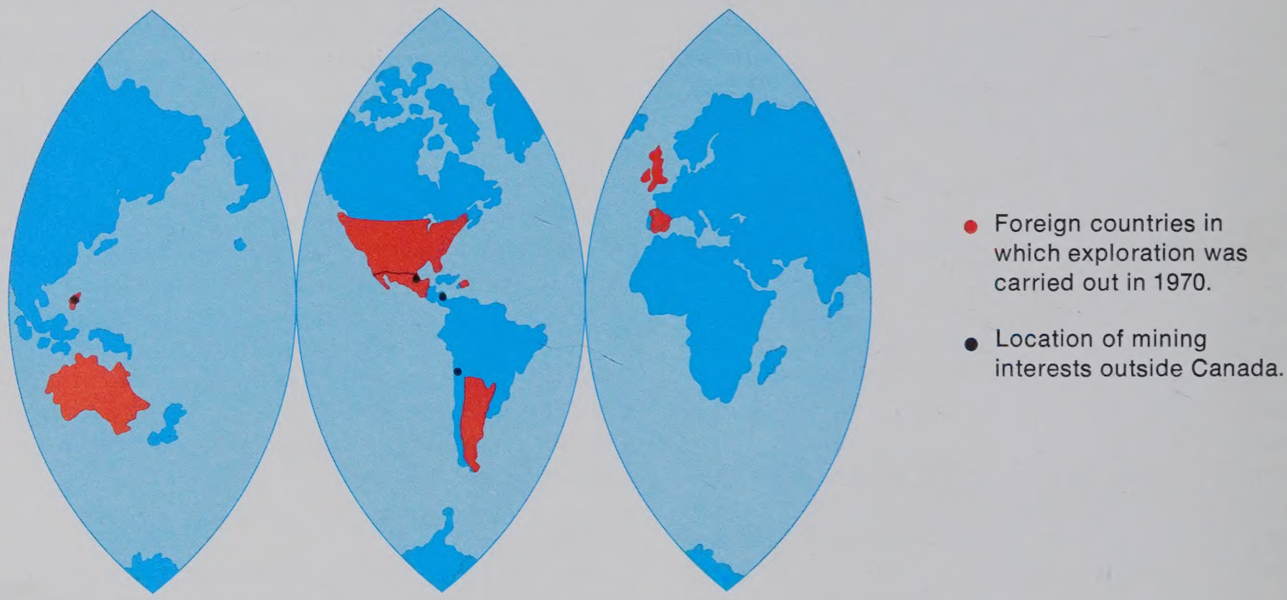
The outlook for 1971 is somewhat obscure. Presently, economic conditions are soft resulting in reduced manufacturing activity and sluggish demand for base metals, accompanied by price weakness, accentuated by the high value of the Canadian dollar. Nevertheless, indications are that the economic conditions will improve as the year progresses and, if this occurs, Noranda should have a satisfactory year.

On behalf of the Board,

President.

Toronto, February 5, 1971.

EXPLORATION



A substantial expansion of exploration activity was implemented in 1970 with expenditures totalling about $8.7 million, an increase of 58% over the previous year.

Mineral exploration outside of Canada received considerable emphasis, consuming about 46% of all funds expended. At year end, as portrayed on the world map above, foreign involvement included work in the U.S.A., Mexico, Australia, Great Britain, Ireland, Spain, Argentina, The Philippines and the Dominican Republic. A promising uranium discovery has been made in Australia and is under investigation. The Fernandez Joint Venture (Noranda 25%, Kerr Addison 26%) expanded reserves substantially at its New Mexico uranium property as reported on page 14 of this Report.

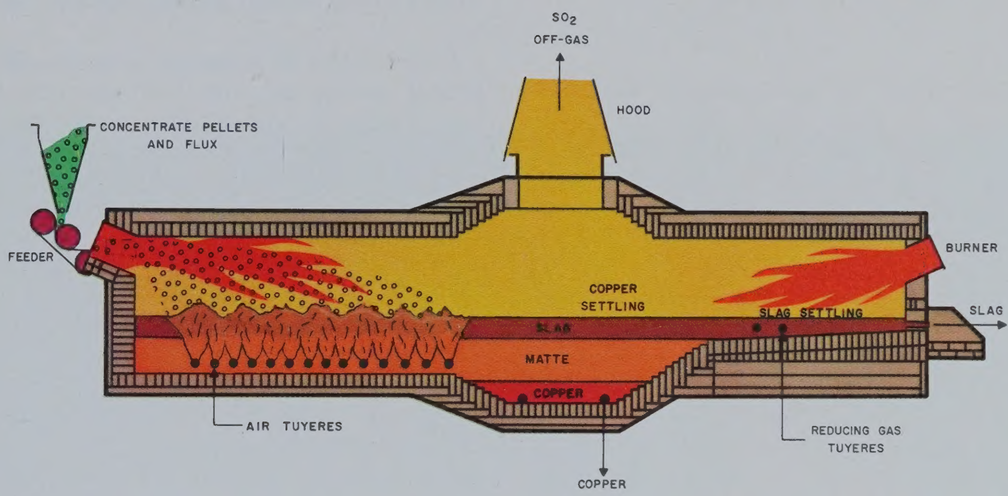
Canadian mineral exploration accounted for 54% of 1970 exploration costs, a considerable portion of which covered airborne and subsequent ground search in large areas of the Precambrian Shield from Quebec to Saskatchewan. Approximately 5,000 square miles were under investigation in 1970. In British Columbia, two porphyry type copper situations are under detailed exploration, one of which is near the Bell Copper deposit, now under development.

Noranda and Gaspé Copper share equally a 20% interest in **Northern Oil Explorers Ltd.,** and to the end of 1970 had contributed $5,289,000 towards the operation. Their portion of the 1971 budget will be $1.5 million. Small commercial deposits of hydrocarbons were discovered in the Louise Creek, Senex and Balzac areas of Alberta. N.O.E.L. has varying interests in some 11.3 million gross acres of lease and reservation lands.

During the past three years, Noranda subscribed $1.65 million in sustaining its 4.5% interest in **Panarctic Oils Ltd.** In 1971, calls for a further $925,000 are expected.

At the year end, thirteen wells had been or were being drilled. Two major gas discoveries were made, on Melville and King Christian Islands. Both wells blew out and the last, on King Christian Island, at the year end was on fire and burning an estimated 40 million cubic feet of gas per day, but was brought under control in January, 1971.

RESEARCH



NORANDA RESEARCH CENTRE

During 1970, commercial use was begun in Noranda plants of the gaseous deoxidation process for copper and the molybdenite up-grading process for molybdenum which were developed at the Research Centre. Work continued in support of the development of the Noranda continuous smelting and converting process for copper concentrates.

Emphasis on product research has increased and this now accounts for 30% of the total research effort. Last year, work was carried out on the electrocoating of metallic conductors, the copper plating of aluminum, the continuous casting of strip and the development of the Noranda Zinc-Aluminum alloys. In order to provide the space required for this work, the pilot plant facilities at the Centre were doubled during 1970.

Copper concentrates are smelted and converted to metallic copper in the Noranda Continuous Smelting Process reactor shown above. The process was invented at the Research Centre in 1964 and has been tested in a 100-ton per day pilot plant at the Noranda Smelter since 1968. In total, 40,000 tons of concentrates have been smelted, leading to the design of an 800-ton per day plant. A major advantage of the new process is that all the sulphur in the concentrate is recoverable as dioxide from the smelter gasses.

ENVIRONMENTAL CONTROL

Noranda maintains a policy of maximum economic utilization of resources, compatible with the principles of conservation and controlled storage or disposal of all products from operations.

Regular monitoring of effluent qualities at all plants led to environmental improvements in several locations. Effective air and water controls are being incorporated into the basic design for new plants. The Group's environmental control co-ordinator has co-operated with government authorities and industrial associations in the development of technologies for treatment of various effluents and emissions.

METAL MARKETS

Deflationary policies initiated in North America and later in Europe caused a decline in demand for most metals in the second half of 1970.

Copper

The extended period of tight copper supplies which commenced in early 1964 ended in 1970, almost 6½ years later. Free World mine production in 1970 exceeded 1969 by more than 6% and, with little change in refined copper deliveries, stocks rose about 250,000 tons.

Although consumption in Europe and Japan increased moderately, U.S. fabricator orders dropped steadily. The demand for marginal supplies of refined copper at higher than domestic producers' prices slackened after April. In the fourth quarter, U.S. producers' inventories increased as dealer and commodity exchange prices continued to decline.

The London Metal Exchange price rose from 71½¢ U.S. per pound in January to a high of 81¾¢ U.S. in mid-April, but thereafter reflected the weakness in the U.S. economy, dropping below the U.S. producers' prices in August.

The Canadian Government withdrew controls on exports of refined copper in August after the requirement of 23,500 tons per month for domestic fabricators had proved unrealistically high for several months. The U.S. Government also dropped controls on refined copper and scrap exports in September after five years.

The U.S. producers' price was increased 4¢ to 60¢ in April, then reduced to 56¢ in October and to 53¢ in November. In Canada, an increase of 9¢ to 66¢ C.F. had been announced effective as of January 2, 1970, but was withdrawn at Government request. A 2¢ increase to 59¢ was allowed, effective March 1. The price was reduced to 57.3¢ in October and to 53.75¢ in early December.

Zinc

Reduced demand in the U.S.A., particularly during the General Motors strike, caused a decline of 4% in world consumption, this being the first decline since 1956. However, cutbacks in world smelter production have maintained market balance and increases in metal stocks have been tolerable.

The overseas price remained unchanged at the equivalent of 14¢ U.S. per pound while in the U.S.A. and Canada it was reduced ½¢ in August to 15¢ C.F. In January, 1971, the U.S. price for Prime Western and continuous galvanizing grades was changed to a delivered basis, an effective ½¢ reduction to the users.

Lead

Consumption was maintained at the 1969 record level. However, metal production increased 4%, mainly in the United States, and stocks rose 125,000 tons.

Prices in North America were steady at 16½¢ per pound during the first half and fell, thereafter, in four stages to 13½¢. Overseas, the price ranged from the equivalent of 15.8¢ to 12¢ at the year end.

Lead anti-knock compounds have become the main target for the campaign against automotive pollution. The continued use of leaded gasoline with controlled exhaust emission systems may well prove the best solution.

Molybdenum

Consumption rose 3% to 139 million pounds. However, after mid-year, new mine output increased while demand decreased because of lower steel production. Also there were some inventory reductions by users and converters, resulting in a temporary surplus. Stocks have been accumulating in producers' hands and some reduction in production may be justified if demand does not improve.

Forward mine capacity will sustain the normal consumption growth rate of 7% which is expected to be re-established in 1971.

The price continues at $1.72 U.S. per pound of molybdenum in concentrate.

Silver

U.S. Treasury sales ended November 10 and the annual production shortfall of some 100 million ounces must now be supplied from private holdings of bullion and coin. Prices were erratic over the year and following the stock market decline in May, dropped from about $1.90 U.S. to $1.56 per ounce and again from $1.85 to $1.59 in December.

Gold

The Free Market price remained between $35 and $36 U.S. per ounce during the first eight months, rose sharply in October to $39.19 and then subsided to the year end level of $37.50. South Africa sold both to the International Monetary Fund and to the Free Market generally to cover its balance of payments deficit. Further issues of Special Drawing Rights reduced the reliance on gold as a currency reserve. However, demand for gold in industrial and artistic uses is growing, while production is static.

REVIEW OF OPERATIONS

MINING AND METALLURGICAL — Consolidated Companies

GECO MINE

Production was seriously affected by a 73-day strike which ended on February 2 and potential earnings from 6,000 tons of copper and 9,000 tons of zinc at a time of high metal prices were lost. The milling rate averaged 4,190 tons per day during the remainder of the year. The total treated was 1,366,000 tons of ore containing 1.86% copper, 3.89% zinc and 1.82 oz. silver per ton. Copper, zinc and lead concentrates produced contained 23,840 tons of copper, 41,880 tons of zinc, 960 tons of lead and 1,815,000 ounces of silver.

Ore reserves at year end showed a net increase of 400,000 tons to 29.2 million tons averaging 2.03% copper, 4.63% zinc and 1.9 oz. silver per ton.

The installation of additional equipment to increase mill capacity was completed and a milling rate of 5,000 tons per day was achieved late in the year.

Environmental improvements were effected by utilizing mine drainage water in the mill and returning seepage from the tailings dams for neutralization and settling in the main storage pond.

HORNE MINE

After mining 834,000 tons of ore averaging 2.0% copper and 0.165 oz. gold per ton, reserves of sulphides and fluxing ore were reduced by 476,000 tons and 126,000 tons respectively. Ore reserves at year end were 1,648,000 tons of sulphide ore averaging 2.38% copper and 0.186 oz. gold per ton, and 258,000 tons of fluxing ore at the Joliet Mine averaging 1.34% copper.

The concentrator treated 654,000 tons of sulphide ore from which were recovered 114,900 tons of copper concentrate for smelting and 169,000 tons of pyrite concentrate for sale to chemical plants.

Ore production will decline progressively until 1973 when the mine will be exhausted.

Noranda Smelter

Receipts of concentrates were lower than in 1969 largely due to the strike at Geco and scaled down operations at the Horne Mine. Anode copper shipments decreased by 10,000 tons.

Because of the increasing cost and unavailability of coal, all three reverberatory furnaces were converted from coal to oil firing. Testing of the new Noranda Continuous Smelting Process pilot plant continued during the year.

	Material Smelted		Copper Content of
	Noranda	Custom	Anodes Produced
	(tons)	(tons)	(tons)
1970	769,000	776,800	210,900
1969	811,200	776,500	220,860
1968	822,900	790,900	221,600
1967	793,800	800,100	212,300
1966	968,700	679,300	184,580

CANADIAN COPPER REFINERS

Refined copper production was 22,000 tons more than in 1969 and about the same as in 1968.

A new wire bar inspection conveyor was installed and also a 20 ton per hour shaft melting furnace for vertically-cast shapes. The original motor generator sets were replaced with silicon rectifiers. Construction started on a silver refinery extension which includes a process change to minimize emission of SO_2 gas.

	Refined Metal Production		
	Copper	Silver	Gold
	(tons)	(ounces)	(ounces)
1970	349,000	12,447,000	424,000
1969	327,000	12,360,000	389,000
1968	351,000	13,084,000	435,000
1967	324,000	11,276,000	475,000
1966	285,000	10,051,000	527,000

BRYNNOR MINES

The Boss Mountain mine treated 591,000 tons of ore averaging 0.225% molybdenum and with recovery of 92.5%, produced concentrate containing 2,456,000 pounds of molybdenum.

Ore reserves above the main adit level were reduced to 2.5 million tons averaging 0.23% molybdenum. Development from the internal shaft and stope preparation are proceeding on the levels below in readiness for mining some 1 million tons of ore averaging 0.29% molybdenum.

A secondary tailings dam was built to provide a greater settling area and achieve maximum clarification of the effluent from the storage pond.

AUNOR GOLD MINES

Gold production of 73,900 ounces from the treatment of 261,700 tons averaging 0.29 oz. gold per ton compares with production of 72,700 ounces in 1969. Increased mechanization of ore handling in narrow vein mining improved efficiency and permitted a reduction in manpower in the last quarter.

Development was reduced and ore reserves at the year end were 834,000 tons averaging 0.33 oz. gold per ton. This is a reduction of 24,000 tons but an increase in grade of 0.01 oz. compared to the 1969 reserves.

Integration of Aunor's operating organization with the staffs of the Hallnor and Pamour mines under the direction of one manager was made effective November 1, and has improved the technical and administrative resources available to each operation.

HALLNOR MINES

Mining and treatment of 129,500 tons of ore averaging 0.33 oz. gold per ton produced 41,700 ounces of gold, some 7,800 ounces less than in 1969, due to lower grade ore.

Ore reserves above the 31st level (4,750′) were 139,000 tons averaging 0.36 oz. per ton; a reduction of both tonnage and grade. The erratic distribution of gold in the vein material has become more apparent with depth. Possibilities for developing adequate reserves to continue operations under current economic conditions are limited.

Development work on the 31st and 32nd levels has been disappointing. An agreement with Broulan Reef Mines Limited permitted some exploration work on the property adjoining Hallnor to the west but no ore was found.

The program, initiated 3 years ago, for establishing vegetation on the slopes of the tailings storage area was continued.

GASPÉ COPPER MINES

Needle Mountain

The mine produced 2,594,000 tons of ore averaging 1.11% copper, including 1,241,000 tons from the open pit. Ore reserves decreased by 0.9 million tons to 27.1 million tons averaging 1.35% copper.

The concentrator treated 2,454,000 tons of ore, an average of 6,724 tons per day, and produced 91,200 tons of concentrate containing 25,540 tons of copper and 204 tons of concentrate containing 226,000 pounds of molybdenum.

Copper Mountain

The open pit produced 1,607,000 tons of ore averaging 0.69% copper and 5,200,000 tons of waste and low grade ore were removed.

Ore reserves increased to 230 million tons of sulphide ore averaging 0.40% copper, and 33 million tons of oxide ore averaging 0.45% copper. Lower grade material surrounding the previously defined open pit is included in ore reserves for the first time.

The concentrator treated 1,616,000 tons of ore, an average of 4,429 tons per day, and produced 33,170 tons of concentrate containing 9,500 tons of copper and 137 tons of concentrate containing 151,000 pounds of molybdenum.

Smelter

	Material Smelted		Copper Content
	Gaspé (tons)	Custom (tons)	Anodes Produced (tons)
1970	227,500	141,500	69,900
1969 (strike)	185,000	84,000	49,400
1968	228,600	107,000	61,100
1967	200,800	97,800	54,500
1966	191,700	75,100	47,000

When the Copper Mountain ore body was developed in 1966 and 1967 it was fully expected that the three-year tax exemption allowed for bringing a new mine into production would be recognized. Production commenced in February, 1968 and application for exemption was made soon thereafter. The federal government has not yet accepted the application and the case may have to be taken to the courts.

CENTRAL CANADA POTASH

The final capital costs of bringing this project to completion totalled $89.9 million. In July the property was transferred to Central Canada Potash Co. Limited and CF Industries, Inc., of Chicago (formerly Central Farmers Fertilizers Co.) exercised its option to purchase its 49% interest. Noranda retains 51% and owns $65.9 million of C.C.P. income debentures.

The production rate increased progressively as workings were opened along the potash bed and the mine was equipped for regular production by a room-and-pillar mining system. Linear advance was equivalent to about 21.5 miles and daily ore output at year end had reached about two-thirds of full rate.

The mill handled 1,858,000 tons of ore averaging 27.5% K_2O equivalent and produced 627,000 tons of products. Shipments totalled 528,000 tons and at year end 136,300 tons were in inventory at the mine. To meet the demand for granular product, two additional compacting machines were installed late in 1970 and another will be added.

While the Saskatchewan Government's prorationing program limited production to about 42% of rated capacity, the stipulated minimum price of 33.75¢ C.F. per unit of K_2O was effective in improving world prices. So far, the cut-back in Canadian production appears to be the only factor contributing to reduced world production.

A price increase of approximately 7% has been announced by North American producers for the 1971 spring shipping period.

LANGMUIR

Located near Timmins this property contains some 1,500,000 tons of ore grading 1.87% nickel.

The project, with a concentrator of 700 tons daily capacity, is estimated to cost $10 million. Production is scheduled for September 1972.

BRENDA MINES

Waste stripping from the open pit amounted to 3.6 million tons. Some 9.6 million tons of ore was mined, of which 7.33 million tons averaging 0.216% copper and 0.064% molybdenum, was treated in the concentrator and the remainder, being lower grade ore, was stockpiled.

The milling rate averaged 23,443 tons per day during the last nine months. Copper recovery was 90.5% in 67,580 tons of copper concentrate and for molybdenum 86.5% in 7,170 tons of concentrate. Metallurgical results and overall operating costs were at expected levels. The closed circuit water supply system operated satisfactorily.

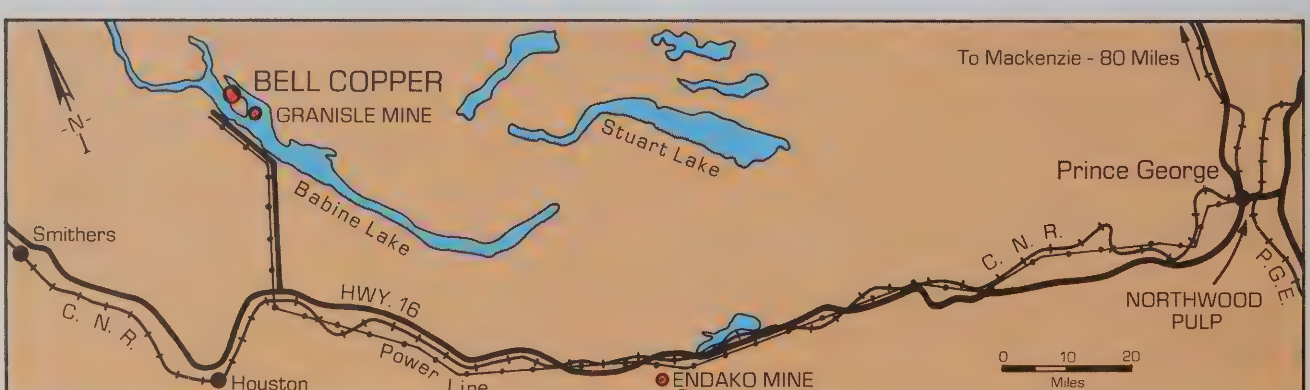
Based on a price of 43 cents per pound for the copper in inventory at December 31, 1970, the estimated net profit was $2,745,000 after providing $3,145,000 interest charges, $7,378,000 write-offs and $345,000 mining taxes, a total of $10,868,000. At year end, the $4 million working capital loan had been retired and $563,000 of accrued interest paid, leaving the outstanding debt at $58.3 million.

BELL COPPER

This property, located on the Newman Peninsula, Babine Lake, B.C., has outlined 46 million tons of recoverable ore containing 0.5% copper.

Work toward bringing the mine to production began in May under the management of the former Brenda construction team. The project involves open pit mining and a concentrator to treat 10,000 tons per day.

The work completed in 1970 included a 9-mile access road, camp facilities, clearing of dock, plant and pit sites and installation of an air bubbler system to maintain open water for winter transportation across the lake. In open pit preparation, 1,920,000 cubic yards of overburden and rock were removed. Detailed design work is underway and all major equipment ordered. The cost of the project is estimated at $40.5 million with operations to start in July, 1972.



Unconsolidated Subsidiaries

BRUNSWICK MINING AND SMELTING

A consolidated net loss of $10,599,000, before extraordinary items was suffered compared to a loss of $3.2 million in 1969. See page 26. Both the underground mine and the open pit were closed down by a 41-day strike. Otherwise the combined production averaged 7,970 tons per day compared to 7,755 tons in 1969. Metallurgical research was successful in improving the final grades of lead and zinc concentrates.

Zinc-lead ore reserves at No. 12 mine increased by 4.8 million tons but the No. 6 open pit reserves were reduced by the 1.1 million tons extracted and stood as follows:

Zinc-Lead	Tons	Zinc %	Lead %	Silver Oz.	Copper %
No. 12 —					
Proven	33,040,000	8.75	3.53	2.41	0.26
Probable	36,600,000	8.65	3.51	2.68	0.30
No. 6 —					
Proven	8,300,000	5.99	2.17	1.99	0.32
Copper					
No. 12 —					
Proven	9,470,000	1.13	0.40	0.85	1.11

East Coast Smelting and Chemical, a subsidiary company, continued to improve production results as shown in the following table.

Production	1970	1969	1968	
Net ISF metal	67,200	60,800	40,100	tons
ISF zinc sold	4,800	3,500	—	"
SHG zinc	31,300	28,800	25,200	"
CG lead	20,100	16,800	11,800	"
Sulphuric acid	77,000	103,000	109,500	"
Copper dross	3,000	2,275	—	"
Cadmium-zinc alloy	127	95	—	"
Silver	1,072,000	318,000	—	ounces

Production of bismuth and lead-antimony alloy was initiated.

Prices received for zinc and lead metals averaged 14.8¢ and 15.5¢ lb.

EMPRESA MINERA DE EL SETENTRION

The Nicaraguan mine treated 114,000 tons of ore averaging 0.62 oz. gold per ton, as compared to 121,750 tons and 0.49 oz. grade in 1969. Proven ore reserves increased 125% to 205,000 tons averaging 0.54 oz. gold per ton. A difficult project was accomplished in driving a drainage level at 700′ depth and lowering the hot water table to enable development and mining on the 600′ level in the Panteon vein. Work is under way to establish drainage at 900′ depth which, if successful, should make available nearly all of the ore presently indicated in the Panteon vein. See page 26.

EMPRESA FLUORSPAR MINES

With the demand for fluorspar continuing strong, the Mexican operating company, Minera Las Cuevas, produced 350,100 tons of ore and shipped 343,000 tons, approximately the same as in 1969. Prices remained firm. Ore reserves increased 10% during the year to 2,807,000 tons. Las Cuevas paid dividends totalling $U.S.1,112,496, of which Empresa Fluorspar received $545,010. The Mexican buyers of the 51% interest in Las Cuevas paid Empresa Fluorspar $537,373 against the purchase price of $3,060,000, leaving $2,058,799 outstanding. See page 26.

CHILE CANADIAN MINES

Ore treated during 1970, including 43,700 tons of custom ore, amounted to 266,000 tons averaging 1.8% copper, and production was 7,260 tons of cement copper containing 3,650 tons of metal. Net profit was $U.S.797,000. Of $U.S.4,529,000 invested in this project in 1964, $2,356,000 has been repaid and operating funds should be adequate to cover the balance.

The future is not clear. Difficulties in obtaining export permits and acceptable terms for smelting cement copper must be resolved and, in any case, while ore is available for treatment through 1971, the operation would be marginal at present copper prices.

Associated Companies

KERR ADDISON MINES

A reduction in profits on sale of investments of \$1,265,000 together with decreased revenue resulting from the fluctuating exchange rate on the Canadian dollar and reduced production at the Kerr Addison and Quemont mines were largely responsible for the decline in earnings to \$7,167,000 or 75 cents per share compared to \$1.01 per share in 1969 and 74 cents in 1968. Dividends and interest income from investments other than subsidiary companies amounted to \$2,944,000 or 31 cents per share for the year, up slightly from the previous year.

After paying dividends totalling 56 cents per share the net value of current assets and investments at quoted market values, including investment in shares and debentures in Agnew Lake Mines Limited of 12.1 million dollars, decreased to \$9.50 per share from \$11.69 a year earlier.

The Kerr Addison mine produced 935 tons per day compared to 1,296 in 1969. Ounces of gold produced decreased from 151,500 to 137,100.

The Normetal mine, wholly owned, the Joutel mine, 63% owned and the Icon Sullivan Joint Venture 21% owned, all operated at capacity, treating 954, 676, 604 tons per day respectively.

Production at the Quemont Mine, wholly owned, decreased from 916 to 820 tons per day due to exhaustion of working places. The mine will close in the second quarter of 1971 due to lack of ore.

The Bokum-Keradamex Joint Venture in New Mexico, in which Kerr Addison and Noranda have 13% and 12½% interests respectively, completed 40 widely-spaced holes, eighteen of which obtained intersections with an arithmetic average of 10.2 lbs. U_3O_8 per ton by radiometric logging over an average thickness of 16.7 feet at a depth of 4,000 feet, indicating a reserve in excess of 40 million pounds of U_3O_8.

Immediately northwest, the Fernandez Joint Venture, in which Kerr Addison and Noranda have 26% and 25% interests respectively, widely-spaced drilling indicated 2,200,000 tons averaging 7.7 lbs. U_3O_8 per ton over an average thickness of 10.8 feet at a depth of 3,000 feet. This reserve is 10,000 feet southeast of that previously reported to contain 3,600,000 tons grading 5.4 lbs. U_3O_8 per ton.

Because of low uranium prices, Agnew Lake Mines, 80% owned, suspended mine development. Indicated reserves are 7,100,000 tons grading 1.80 lbs. U_3O_8 per ton in two zones to a depth of 3,500 feet, plus 1,400,000 tons averaging 2.3 lbs. per ton on adjoining Kerr Addison claims. The property will be held on a care and maintenance basis in anticipation of higher prices.

The drilling and underground development phases of a feasibility study on the Adanac Molybdenum property in northwestern British Columbia were completed and studies are continuing. Kerr Addison has the right to acquire a 60% interest in the property if it decides prior to September 1, 1971 to bring it into production.

PAMOUR PORCUPINE MINES

Dividends of \$750,000 were paid of which Noranda received \$346,000. See page 26. At an average milling rate of 1,736 tons per day and gold content of 0.133 oz. per ton, gold production was 80,000 ounces compared with 1,704 tons, 0.147 oz. per ton and 86,000 ounces of gold in 1969. Year end ore reserves of 1,531,000 tons averaged 0.124 oz. gold per ton and showed a slight reduction in tonnage. A high level of mining efficiency was maintained with more than a third of the ore being handled by mechanized load-haul-dump equipment. The program for seeding of tailings storage areas was continued and a new sewage lagoon was put into operation.

ORCHAN MINES

Dividends of \$2,423,000 were paid of which Noranda received \$1,081,000. See page 26.

Ore milled was 540,000 tons comprising 414,500 tons of Orchan ore averaging 11.1% zinc and 1% copper, 61,250 tons from the subsidiary, Bell Allard Mines and 64,250 tons from New Hosco.

The Bell Allard operation ended in November when ore reserves were exhausted. Some work was done toward preparing a small orebody of another subsidiary, Garon Lake Mines Limited, 11 miles from Orchan, for production when metal prices are favourable.

Ore reserves in the Orchan mine were depleted by 260,000 tons to 2,500,000 tons averaging 9.7% zinc and 1.1% copper.

Shipment of ore from the Daniel Township property of New Hosco Mines Limited continued at a reduced rate until May when the operation closed. Management by Noranda was terminated on April 30.

Other Important Interests

MATTAGAMI LAKE MINES

Net earnings of $7,910,000 or $1.20 per share compare with $9,095,000 in 1969 and $7,260,000 in 1968. Dividends of $1.50 per share were paid, as in both prior years and Noranda received $2,560,000 per year in 1968 and 1969, and $3,112,000 in 1970. Mattagami is in a good financial position.

The mill treated 1,430,860 tons, or 3,920 tons per day, compared to 3,873 tons in 1969. Average grade of ore was 9.1% zinc and 0.59% copper. At the year end, ore reserves were 16,696,000 tons averaging 9.2% zinc and 0.66% copper.

Mattabi Mines owned 40% by Abitibi Paper Company and 60% by Mattagami, took over the orebody discovered by Mattagami on property owned by Abitibi near Sturgeon Lake, northwestern Ontario. The ore reserves indicated to date total 12,866,000 tons averaging 0.007 oz. of gold and 3.13 oz. of silver per ton, 7.60% zinc, 0.91% copper and 0.84% lead. Of this, 8,236,000 tons grading 0.008 oz. of gold and 3.98 oz. silver per ton, 8.90% zinc, 1.06% copper and 0.99% lead will be mined by open pit methods.

Production at 3,000 tons per day will commence in mid-1972 at an estimated cost of $40 million. Financing will be through chartered banks.

Canadian Electrolytic Zinc at Valleyfield, Quebec, is managed by Noranda which owns 9%, while Mattagami Lake, Orchan, and Kerr Addison own 62.5%, 18.7% and 9.7% respectively. The financial results are consolidated pro rata with those of the owners. Because of lower demand and increasing producer stocks, zinc production in 1970 was 124,100 tons, about 85% of rated capacity. Cadmium demand and prices weakened in the last half of the year and production was lower at 514,000 lbs., due to the Geco strike. Sulphuric acid production was 120,000 tons.

At **St. Lawrence Fertilizers,** which operates as a subsidiary of C.E.Z., further improvements were achieved in plant operation and efficiency. The entire industry continues to suffer from over-capacity and weak product prices with no near term improvement foreseen. The usage of phosphate based fertilizers is growing at about 5% per annum, but supply and demand will not be in balance until the mid-1970's.

Production and earnings of **General Smelting,** also operated as a subsidiary of C.E.Z., were considerably improved despite the General Motors strike which affected markets for aluminum alloy and zinc dust. Sales of zinc dust have been developed in overseas markets.

PLACER DEVELOPMENT

Estimated net profit was $5,734,000, or $1.06 per share, compared to $10,147,000 and $1.90 per share in 1969. The decrease was due mainly to Endako's lower contribution, resulting from sharply reduced 4th quarter sales, higher taxes and lower exchange premiums.

Placer paid 4 quarterly dividends of 30¢ per share and working capital was reduced by $7.4 million to $17.7 million.

In 1970, its first full year of production, the Philippine company, Marcopper Mining Corp., realized net profits equivalent to $18.7 million (U.S.), and repaid $25 million of its total borrowings of $45 million. If the net profit had been disbursed as dividends, Placer, owning 40% of Marcopper, would have received $4,900,000, or 90 cents per share.

Placer will have a 71% interest in Gibraltar Mines Limited, and has arranged and guaranteed loans totalling $74 million to finance that company to production at 30,000 tons of ore per day. Gibraltar's mine, near Williams Lake, B.C., has 358,000,000 tons of open pit ore averaging 0.39% copper and 0.016% molybdenum. Production is planned to begin in mid-1972.

Placer has a 27.2% interest in Mattagami Lake Mines.

CRAIGMONT MINES

During the year ended Oct. 31, 1970, net profit was $5,289,000 compared to $6,284,000 for the previous year. The decrease was due to slightly lower copper production, higher operating costs and lower exchange premiums, offset partially by a higher average copper price despite the fall-off in the last six months. Dividends were paid totalling $6,347,000, of which Noranda received $1,250,000.

The Company's principal computer and systems development staff and operation were joined together in the new **Norcomp Division** located in Don Mills, Ontario.

MANUFACTURING — Consolidated Companies

Manufacturing interests in the U.S.A. are Noranda Aluminum in Missouri, Pacific Coast in Ohio, and Noranda Metal Industries with a tube mill in Washington and a small specialty tube plant in Connecticut. Canada Wire is associated with thirteen manufacturing companies located in Mexico, the Dominican Republic, Venezuela, Colombia, New Zealand and Spain.
These countries are shown in red on the map at left.

CANADA WIRE AND CABLE

Canada Wire and Cable operates eleven plants across Canada. Domestic sales and earnings improved during 1970 despite unsettled conditions. The assets of Industrial Wire and Cable, acquired in 1969, contributed significantly to these results. Magnet wire and telecommunication operations were expanded and distribution facilities modernized. Research and development activities were expanded and export sales increased substantially. Sales and earnings of the Company's foreign affiliates continued to grow and recovery to a profitable position was achieved in New Zealand.

NORANDA METAL INDUSTRIES

This company, previously Noranda Copper Mills, with Canadian plants at Montreal East, Quebec, Fergus, Ontario and New Westminster, B.C. was incorporated in 1970 as a result of a merger with other metal manufacturing operations.

Sales and earnings of copper and brass mill operations declined from the high levels of 1969. Demand for products of these plants was lower due to the general slowdown in economic conditions, particularly in the automotive and construction industries. Product and process research increased substantially at plants and the Noranda Research Centre.

The French Tube Co., a small specialty tube maker in Connecticut, U.S.A., was acquired. Capital expenditures were $1.4 million in Canada and $1.1 million in the U.S.A.

COULTER MANUFACTURING

All die casting activities were consolidated in the plants of Coulter Manufacturing at Uxbridge and Oshawa, Ontario. Assets of Wolverine Die Cast in Detroit were sold but a service and sales facility retained to serve the U.S. market. Operations continued to improve but a loss was incurred due to low volume in the automotive industry.

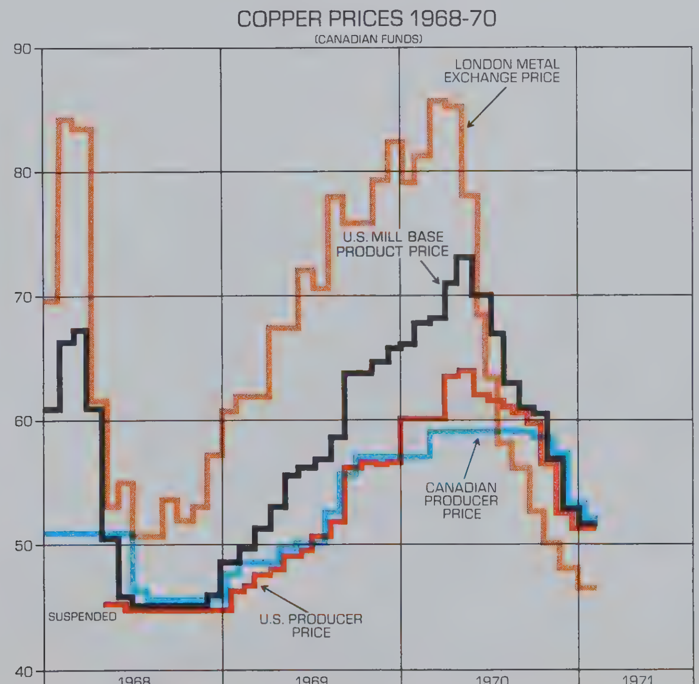
GRANDVIEW INDUSTRIES

Construction markets were weak for some extruded plastic products but sales increased over last year and the company operated profitably. Capital expenditures amounted to $122,000.

QUEBEC IRON FOUNDRIES

All four plants operated at good volumes and efficiencies. Sales and profits were at record levels and capital expenditures totalled $250,000.

Conductores Monterrey, S.A., Monterrey N.L., an associated company of Canada Wire, is one of the largest wire and cable manufacturers in Mexico.



Pictured above is Noranda's aluminum reduction plant situated beside the Mississippi River near New Madrid, Missouri, U.S.A.

NORANDA ALUMINUM

As stated in the Directors' Report, construction of the 70,000 tpy aluminum reduction plant on the Mississippi River was affected by appalling inter-union labour problems. The schedule for first metal production by the end of 1970 was set back to late in the first quarter of 1971. The total cost of reduction plant, rod and cable plant and industrial park is now expected to be $104.5 million. When complete, the aluminum reduction plant will be the most modern and efficient in operation. Provision of some major facilities beyond those required for the first stage of production has been made to allow expansion in two further stages to 210,000 tons per year.

The rod and cable plant completed its first year of operation. High quality products were produced soon after start up and were well received in the market.

PACIFIC COAST

A poor year for the home construction and remodelling industry in the United States resulted in unsatisfactory sales and profit levels. Programs were initiated to improve product designs and increase utilization of the 89 warehouses in the eastern States.

Management reorganization, adoption of effective industrial engineering techniques and improved inventory control have prepared the company for more profitable participation in the better construction market expected in 1971. Capital expenditures were $200,000.

Associated Companies

CANPLAS INDUSTRIES

Sales of moulded plastic products increased over the previous year and profits were again satisfactory.

WIRE ROPE INDUSTRIES

Sales and earnings increased slightly over the previous year and were at satisfactory levels. Dividends of $240,000 were paid to Noranda in 1970.

FOREST PRODUCTS — Consolidated Companies

NORTHWOOD MILLS

Northwood Mills was unable to maintain its profit level of 1969 due to market conditions in the lumber industry. Cash flow was maintained partly through enlarged sales agency business as well as by capital cost allowances on new sawmills.

Construction of the new sawmills was delayed by labour problems. Costs are running close to plan with startup scheduled for March. Capital expenditures for the year amounted to $6,250,000.

Northwood sold 411 million board feet of lumber, including 75 million from its own production, at the prevailing low level of prices. A sound international sales organization and very modern sawmills place Northwood in a good position to face the future.

NORTHWOOD PULP

A total of 245,000 tons of pulp was produced, as planned. Reliable production of quality pulp combined with higher prices resulted in satisfactory profits from the pulp operation. At the year end, work had been completed on facilities enlargement which increased capacity to 800 tons per day.

Additional washing and primary effluent treatment facilities were installed at a cost of $1,250,000, raising the amount invested in effluent control to over $5 million. The stringent standards of the licence from the B.C. Pollution Control Board under which Northwood operates are being met. It is believed that these standards are not exceeded in Canada.

Construction of the new sawmill near Prince George was delayed by a strike of construction workers. This project is three months behind schedule, although within budget. The Shelley, Eagle Lake and Upper Fraser sawmills increased both volume and productivity. Notwithstanding record production of 230 million board feet, this division incurred a loss because of low prices.

Total capital expended by all divisions of Northwood Pulp was $11.5 million.

New labour contracts were negotiated with both unions represented in Northwood on the standard terms prevalent in the province. These contracts result in increases of about 10% per annum and on their completion will have cost nearly $6,000,000. It remains to be seen whether the forest industry can sustain such drastic increases in the face of competing materials and technology as well as the scarcity of capital.

B.C. FOREST PRODUCTS

This company had the worst year in its history, chiefly due to a series of labour problems. The first of these was the towboat operators strike, followed by the construction workers strike, then the pulp workers strike, all compounded by very low wood product prices. The financial result of all this was earnings of 19¢ per share compared to $2.34 in 1969. Common share dividend remained at $1.00 per share.

BCFP raised the funds required for its $95 million Mackenzie project from internal resources, its bank, and a public issue of $20,000,000 9¾% debentures. At year end most of the steel had been erected for the main pulp and wood product structures. While the stud mill should start up in 1971, the pulp mill is scheduled for August, 1972.

Northwood Pulp's new sawmill as it appeared during construction in December.

CONSOLIDATED STATEMENTS OF EARNINGS AND RETAINED EARNINGS

FOR THE YEAR ENDED DECEMBER 31,

	1970	1969
EARNINGS	(in thousands)	
Revenue:		
From metals, products and custom tolls	**$ 456,948**	$ 428,479
Dividends and interest earned (note 1(b))	**24,283**	20,183
Share of profits in associated companies (note 2(b) (i))	**7,760**	2,800
Gain on sale of investments	**861**	2,869
	489,852	454,331
Expense:		
Cost of metal production and products sold	**317,995**	297,789
Administration, selling and general expenses	**29,672**	26,892
Depreciation (1970 — $18,906,000) and preproduction expenses written off	**20,597**	17,244
Exploration and research written off	**8,693**	6,602
Interest (including long-term debt interest of $10,683,000)	**17,097**	14,366
	394,054	362,893
	95,798	91,438
Income and production taxes	**37,240**	36,888
Minority interest in (losses) profits of subsidiaries	**(961)**	217
	36,279	37,105
Earnings before extraordinary items	**$ 59,519**	$ 54,333
Extraordinary items: (note 8)	**(1,297)**	(144)
Net earnings for the year	**$ 58,222**	$ 54,189
Earnings per share:		
Before extraordinary items	**$2.46**	$2.25
After extraordinary items	**$2.41**	$2.24
RETAINED EARNINGS		
Balance, beginning of year	**$ 298,305**	$ 270,821
Net earnings for the year	**58,222**	54,189
	356,527	325,010
Dividends paid	**27,153**	26,439
Excess of cost of investments in consolidated subsidiaries over book value of net assets acquired	**112**	266
	27,265	26,705
Balance, end of year	**$ 329,262**	$ 298,305

(See accompanying notes)

CONSOLIDATED STATEMENT OF SOURCE AND APPLICATION OF FUNDS

FOR THE YEAR ENDED DECEMBER 31,

	1970	1969
	(in thousands)	
Working capital, beginning of year	**$ 75,970**	$ 133,630
Source of funds:		
Operations —		
Earnings before extraordinary items	**59,519**	54,333
Depreciation and preproduction charges	**20,597**	17,244
Deferred taxes	**67**	6,505
Minority interest in earnings	**(961)**	217
	79,222	78,299
Issue of shares	**503**	10,447
Long-term debt issued	**60,000**	12,154
Fixed asset disposals and adjustments	**3,810**	1,556
Sale of 49% interest in Central Canada Potash Co. Limited	**11,760**	—
Damages awarded Gaspé Copper Mines, Limited	**—**	2,081
Other (net)	**(1,606)**	2,904
	153,689	107,441
Application of funds:		
Fixed assets and projects under construction	**87,692**	66,717
Less funds released by trustee for aluminum project	**(54,656)**	(28,242)
	33,036	38,475
Dividends	**27,153**	26,439
Investments and advances (net)	**17,493**	34,180
Current maturities of long-term debt	**13,470**	58,255
Deferred preproduction, exploration and other expenditures	**7,233**	3,131
Change in deferred liabilities and holdbacks payable	**(616)**	4,621
	97,769	165,101
Net increase (decrease)	**55,920**	(57,660)
Working capital, end of year	**$ 131,890**	$ 75,970

(See accompanying notes)

NORANDA MINES LIMITED

(Incorporated under the laws of Ontario) and its consolidated subsidiaries

CONSOLIDATED BALANCE SHEET — DECEMBER 31

	1970	1969
ASSETS	(in thousands)	
Current assets:		
Cash and short-term commercial notes	**$ 54,308**	$ 28,437
Marketable investments, at cost less amounts written off (quoted market value $21,411,000)	**21,798**	26,545
Accounts, advances and tolls receivable ($16,321,000 due from unconsolidated subsidiaries)	**115,440**	116,816
Inventories of metals, products and stores — metals at estimated realizable value, other inventories at the lower of cost or market	**118,668**	124,885
	310,214	296,683
Investments and advances:		
Unconsolidated subsidiaries at cost (note 1(b))	**54,713**	54,591
Associated and other companies (note 2(b))	**167,370**	149,999
	222,083	204,590
Fixed assets:		
Property, buildings and equipment, at cost	**404,311**	309,284
Accumulated depreciation	**197,799**	183,446
	206,512	125,838
Projects under construction (Aluminum $88,342,000)	**93,393**	121,900
Funds held by trustee for aluminum project (note 3(b))	**1,330**	55,986
	301,235	303,724
Other:		
Preproduction ($16,900,000), exploration ($7,879,000) and other expenditures deferred	**34,188**	16,593
Debenture and revenue bond discount and financing expenses, at cost less amortization	**3,599**	2,930
	37,787	19,523
	$ 871,319	$ 824,520

(See accompanying notes)

	1970	1969
LIABILITIES	(in thousands)	
Current liabilities:		
Bank advances	**$ 15,091**	$ 31,597
Accounts payable ($6,640,000 due to unconsolidated subsidiaries)	**105,553**	116,586
Taxes payable	**17,661**	8,473
Debt due within one year (note 3)	**40,019**	64,057
	178,324	220,713
Deferred liabilities and holdbacks payable	**3,253**	2,637
Deferred taxes	**37,204**	37,137
Long-term debt (note 3)	**224,091**	177,561
Minority interest in consolidated subsidiaries	**16,117**	5,602
Shareholders' equity:		
Capital stock (note 4) —		
Authorized: 40,000,000 shares of no par value		
Issued: 24,214,158 shares	**78,025**	77,522
Contributed surplus	**5,043**	5,043
Retained earnings	**329,262**	298,305
	412,330	380,870
	$ 871,319	$ 824,520

On behalf of the Board:

JOHN R. BRADFIELD, Director

ALFRED POWIS, Director

(See accompanying notes)

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

FOR THE YEAR ENDED DECEMBER 31, 1970

1. Basis of statement presentation and foreign exchange translation

(a) The accompanying consolidated financial statements include the accounts of Noranda Mines Limited (the "Company") and all of its subsidiaries except:

(i) Brunswick Mining and Smelting Corporation Limited, which is referred to in note 2(a), and

(ii) A number of non-operating investment companies, and foreign operating companies, the earnings and assets of which are not significant in relation to the consolidated financial position.

(b) Revenue from dividends and interest earned includes $1,841,000 dividends and $3,217,000 interest, from unconsolidated subsidiaries. The Company's share of the aggregate profits less losses of these unconsolidated subsidiaries for their 1970 fiscal periods amounted to $1,685,000. The Company's share of the accumulated undistributed profits less losses of its unconsolidated subsidiaries of $880,000 has not been taken up in the consolidated accounts.

(c) Foreign currency assets and liabilities of the Company and its domestic subsidiaries have been translated into Canadian dollars at current rates of exchange. Working capital of foreign subsidiaries has also been translated at current rates while their fixed assets and long-term debt have been translated at historic rates.

2. Investments

(a) The Company and its consolidated subsidiaries hold $49,500,000 principal amount of 6½% First Mortgage Convertible Income Bonds maturing April 30, 1977, 100,000 6½% Cumulative Convertible Redeemable Preferred Shares with a par value of $5 each, and a minor holding of common shares of Brunswick Mining and Smelting Corporation Limited.

Because of the voting rights attaching to the preferred shares, Brunswick is technically a subsidiary of the Company under the definitions set out in The Ontario Business Corporations Act, 1970, but because the Company holds less than 1/10 of 1% of its outstanding common shares the accounts of Brunswick have not been consolidated. Although Brunswick has had substantial losses to date, because of the Company's minor holding of common shares its share of such losses is not significant and has not been provided for.

(b) The investments in and advances to "Associated and other companies" include:

(i) 50% interests in Northwood Pulp Limited and Brenda Mines Ltd. and a 29% interest in British Columbia Forest Products Limited (controlled jointly with a partner company). These investments are accounted for on the basis of cost plus Noranda's equity in undistributed earnings since dates of acquisitions.

(ii) Other investments carried at cost less amounts written off.

These investments in and advances to "Associated and other companies" are not temporary investments. They include shares carried at a book value of $103,357,000 which had a quoted market value of $202,557,000 at December 31, 1970. The latter amount does not necessarily represent the value of these holdings, which may be more or less than that indicated by market quotations.

(c) An unconsolidated subsidiary holds 56,000 shares of the Company.

3. Debt

(a)	Dec. 31, 1970	Dec. 31, 1969
	(in thousands)	
Long-term bank loans to Noranda and consolidated subsidiaries:		
— 5% bank loan (December 31, 1970 — $700,000 U.S.; December 31, 1969 — $1,400,000 U.S.) repayable in equal quarterly instalments 1971-1972	$ 714	$ 1,512
— 6½% bank loans due August 31, 1970	—	50,000
— 6% bank loan ($10,100,000 U.S.) due January 31, 1971	10,302	10,908
*— 8-11/16% bank loan ($15,000,000 U.S.) due May 8, 1973	15,300	16,200
	26,316	78,620
Long-term debt:		
— Noranda Mines Limited		
10% Notes payable due February 2, 1973	20,000	—
8⅝% Notes payable due January 17, 1972	10,000	10,000
7½% sinking fund debentures due October 1, 1988	30,000	30,000
9¼% sinking fund debentures due October 15, 1990	40,000	—
— Canada Wire and Cable Co. Ltd.		
5⅝% sinking fund debentures maturing June 1, 1983	3,250	3,750
— Noranda Aluminum Inc.		
4.80% to 5.90% industrial revenue bonds, serial and sinking fund issues, maturing November 1, 1972 to 1978 and 1993 ($85,000,000 U.S.) (Note 3(b))	91,163	91,163
— The Pacific Coast Company		
5½%-9¼% mortgage notes payable in monthly instalments to 1990 (December 31, 1970 — $13,261,000 U.S.; December 31, 1969 — $13,451,000 U.S.)	14,259	14,423
— Sundry indebtedness	1,169	1,596
	209,841	150,932
Other debt:		
Short-term notes payable	27,953	12,066
	264,110	241,618
Debt due within one year	40,019	64,057
Long-term debt	$ 224,091	$ 177,561

* Rate of interest on this bank loan varies from time to time.

Amounts due in repayment of long-term debt in the years 1972 to 1975 are as follows:

1972 — $12,508,000; 1973 — $38,410,000;
1974 — $ 4,219,000; 1975 — $ 4,333,000.

(b) Assets and the related debt of the aluminum plant in New Madrid, Missouri, while technically the property and obligation of the City, are carried on the Company's books by virtue of its long term lease option and unconditional guarantees.

4. **Capital stock**

(a) During the year shares in the Company's capital stock were issued as follows:

— under the Company's stock option plan (note 4(b))	9,330 shares at	$ 226,000
— under the Company's share purchase plan (note 4(c))	10,200 shares at	278,000
	19,530	$ 504,000

(b) Under the provisions of the stock option plan,

— Options were granted on 31,700 shares exercisable up to July 19, 1978 at $26.17 per share.

— At December 31, 1970 options were outstanding on 152,980 shares exercisable at prices varying from $19.62 to $30.23 for periods up to 1978.

(c) Under the Company's share purchase plan shares are sold to a trustee for resale to employees financed by an interest free loan from the company. At December 31, 1970 the amount of the loan included in accounts receivable was $1,314,000.

5. **Commitments and contingent liabilities**

(a) Approved capital projects and financing commitments outstanding total approximately $70,000,000 at December 31, 1970. In addition, the Company has guaranteed repayment of bank loans of Northwood Pulp Limited, to the extent of approximately $19,150,000 U.S. at December 31, 1970.

(b) The estimated future cost of funding past service pension obligations is $5,000,000. This amount will be funded and absorbed against income over a period up to 21 years.

(c) Consideration has been given to an expansion of copper mining, concentrating and smelting facilities which if proceeded with would cost an estimated $123,000,000.

6. **Income Taxes**

U.S. subsidiaries of the Company have accumulated loss carry-forwards for tax purposes of approximately $17,000,000 which are available to offset taxes that otherwise may be payable in the next few years.

7. **Remuneration of Directors and Senior Officers**

The aggregate direct remuneration paid or payable by the Company and its consolidated subsidiaries to directors and senior officers amounted to $970,149. Remuneration paid by unconsolidated subsidiaries to such persons was $5,100.

8. **Extraordinary items**

Extraordinary items included in the consolidated statement of earnings for the year are as follows:

	1970	1969
	(in thousands)	
Provision for loss on discontinuance of certain manufacturing operations (net of tax)	($ 750)	($ 1,300)
Exchange loss resulting from adoption of a floating exchange rate for the Canadian dollar (net of tax)	($ 547)	—
Recovery of prior years' provision for losses on abandonment of Kennedy Lake Mine	—	$ 1,156
	($ 1,297)	($ 144)

AUDITORS' REPORT

To the Shareholders of
Noranda Mines Limited:

We have examined the consolidated balance sheet of Noranda Mines Limited and its consolidated subsidiaries as at December 31, 1970, and the consolidated statements of earnings, retained earnings, and source and application of funds for the year then ended. Our examination included a general review of the accounting procedures and such tests of accounting records and other supporting evidence as we considered necessary in the circumstances.

In our opinion these financial statements present fairly the financial position of the companies as at December 31, 1970 and the results of their operations and the source and application of their funds for the year then ended, in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Toronto, Canada,
February 16, 1971.

CLARKSON, GORDON & CO.,
Chartered Accountants.

RESULTS OF PRINCIPAL UNCONSOLIDATED SUBSIDIARY AND ASSOCIATED MINING COMPANIES (Dollars in thousands)

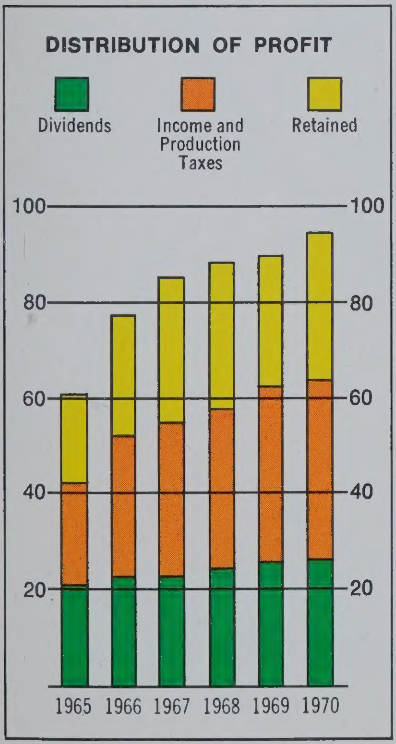
	BRUNSWICK MINING AND SMELTING		EMPRESA FLUORSPAR MINES (U.S. Currency)		EMPRESA MINERA de EL SENTENTRION (U.S. Currency)		KERR ADDISON MINES		ORCHAN MINES		PAMOUR PORCUPINE MINES	
	1970	1969	1970	1969	1970	1969	1970	1969	1970	1969	1970	1969
Revenues	$ 39,207	$ 39,524	$1,533	$ 825	$2,880	$2,765	$25,380	$29,296	$13,934	$12,499	$3,430	$4,045
Expenses	38,317	31,352	64	191	1,933	1,920	14,320	15,736	6,578	5,783	2,488	2,729
	890	8,172	1,469	634	947	845	11,060	13,560	7,356	6,716	942	1,316
Depreciation and Write-offs	11,385	11,047	—	—	46	50	1,690	1,736	2,267	2,393	42	47
Income and Production Taxes	104	360	71	51	263	213	2,203	2,171	1,962	986	—	168
	11,489	11,407	71	51	309	263	3,893	3,907	4,229	3,379	42	215
Earnings (Loss)	$(10,599)	$ (3,235)	$1,398	$ 583	$ 638	$ 582	$ 7,167	$ 9,653	$ 3,127	$ 3,337	$ 900	$1,101
Dividends Paid	—	—	$1,213	$1,091	$ 300	$1,000	$ 5,336	$ 5,334	$ 2,423	$ 2,423	$ 750	$ 750
Working Capital	$(17,061)	$(11,686)	$1,985	$1,690	3,275	$2,481	$17,246	$18,834	$8,214	$ 6,888	$1,000	$1,188
Noranda's Interest:	Note (1)											
Direct			74%		61%		38%		45%		46%	
Beneficial (2)			89%		61%		43%		50%		46%	
Direct Interest In: Net Income			$1,035		$ 389		$ 2,723		$ 1,407		$ 414	
Dividends			$ 898		$ 183		$ 2,028		$ 1,090		$ 345	
Shareholders' Equity			$1,968		$3,066		$25,498		$ 8,037		$2,921	
1970 Dividends Received Per Noranda Share	—		$ 0.04		$ 0.01		$ 0.08		$ 0.05		$ 0.01	

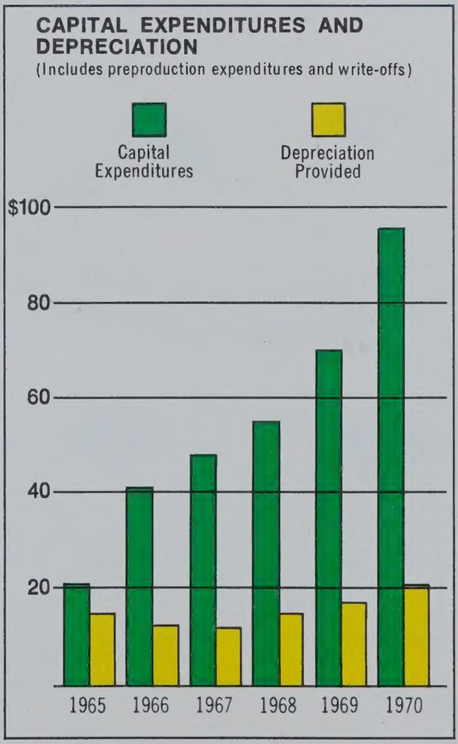
Notes: (1) Investment in common shares is nominal
(2) Effective interest through direct and indirect investment in common shares.

Noranda's interest, both direct and beneficial (Note 2), in the undistributed 1970 earnings of the above companies together with Placer, Mattagami and Craigmont was $0.02 per share.

CONSOLIDATED SEGMENTED EARNINGS

	1970 Per Share	1970 %	1969 Per Share	1969 %
Net Earnings from:				
Mining & Metallurgical Operations	$ 2.51	87%	$ 2.40	91%
Manufacturing Operations	.30	10	.14	5
Forest Products Operations	.07	3	.10	4
	$ 2.88	100%	$ 2.64	100%
Common costs	(.42)		(.39)	
Earnings before extraordinary items	$ 2.46		$ 2.25	

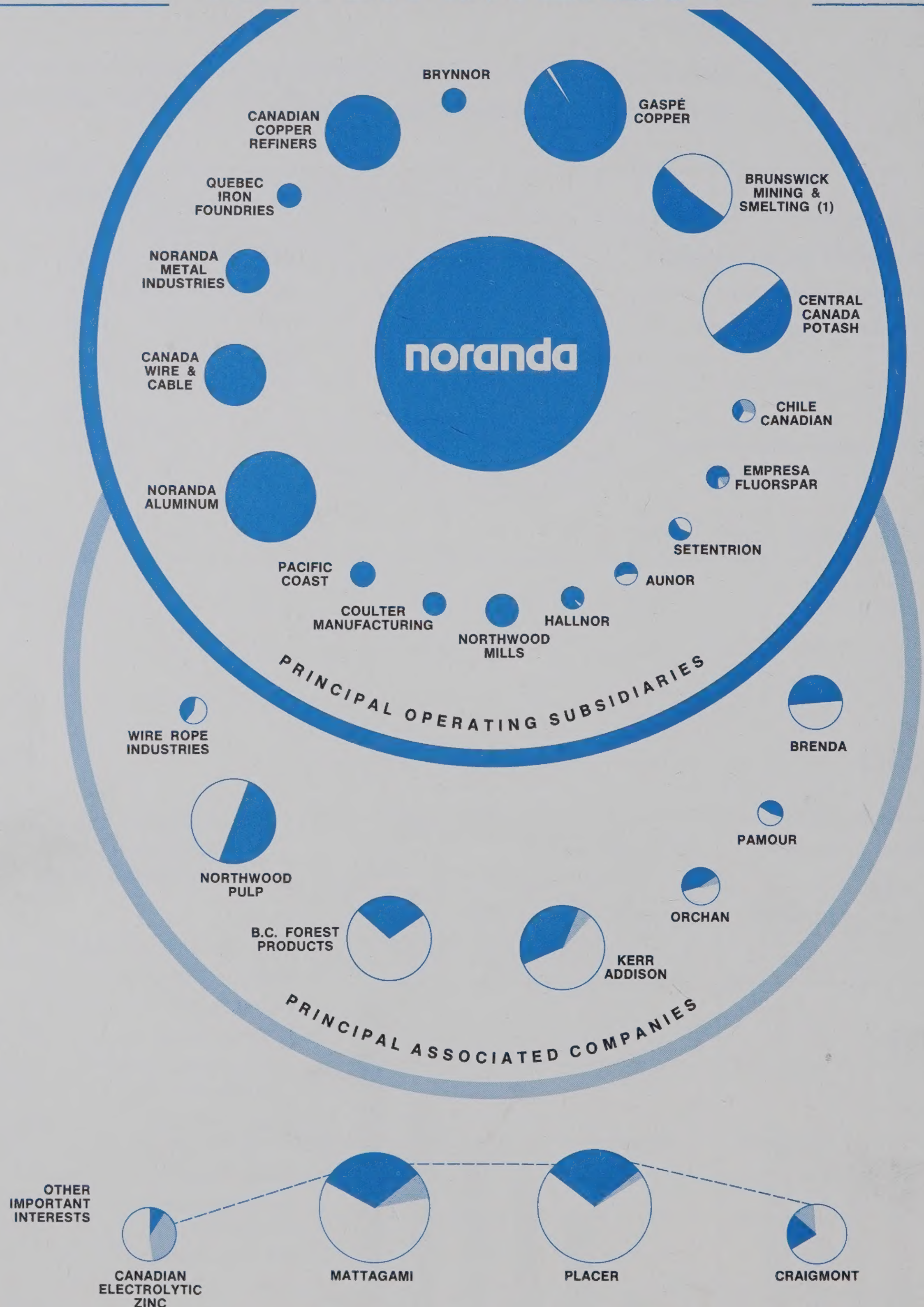




PURCHASES BY THE NORANDA GROUP OF COMPANIES IN CANADA IN 1970

	(000)
Chemicals and explosives	$ 23,500
Electrical equipment	4,500
Electric power	14,000
Forest products	13,700
Building products and refractories	5,100
Freight, transport, and express	33,700
Fuels and lubricants	8,500
Iron & steel products, machinery, etc.	22,300
Non-ferrous metals	21,500
Other	51,200
Total	$ 198,000

MAJOR INTERESTS



HELD BY NORANDA OR WHOLLY OWNED SUBSIDIARIES

NORANDA'S INDIRECT BENEFICIAL INTEREST

Where applicable the size of each circle indicates the total market value of shares outstanding.

(1) Convertible securities

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